DITEC

AUTOMATIC ENTRANCE SPECIALISTS

# CE CROSS 5E-7E-7EH-8E

IP1747 - rev. 2005-12-06

(I) Manuale di installazione e manutenzione per automazioni per cancelli scorrevoli.

(GB) Installation and maintenance manual for sliding gates automatic system.

(F) Manuel d'installation et d'entretien pour automatisme pour portails coulissants.

(D) Montage und Wartungshandbuch für Schiebtore Automatisierung.

(E) Manual para la instalaciòn y la manutenciòn para automatización para cancelas de corredera.

(P) Manual de instalação e manutenção para portaõ corrediço sistema automatico.

ICIM
ISO 9001
Cert. n° 0957

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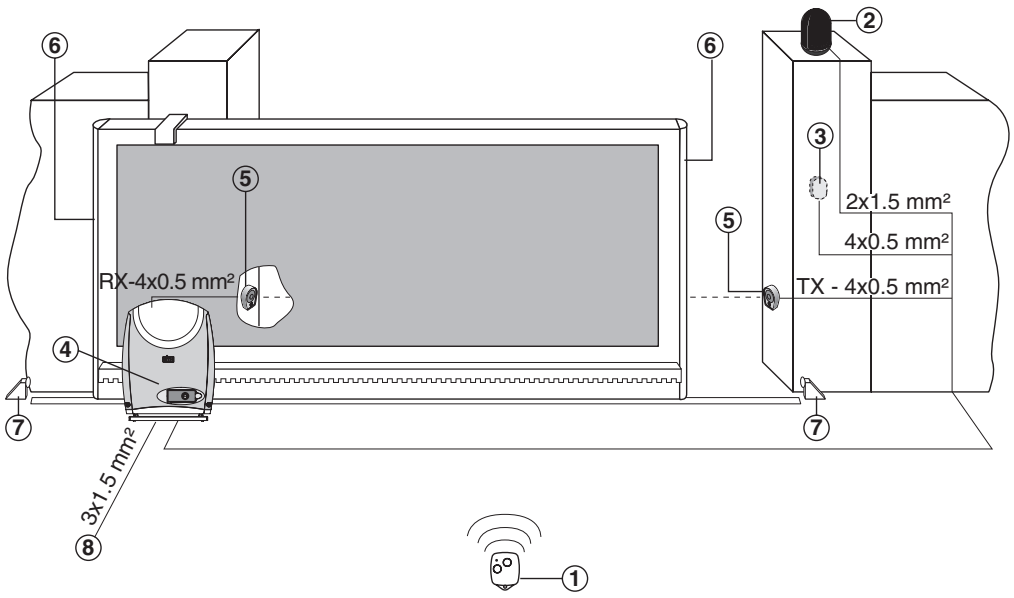



Fig. 1

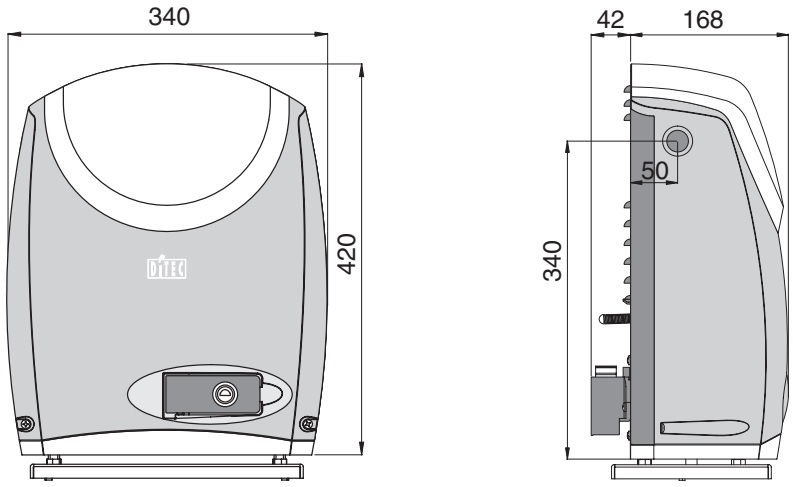
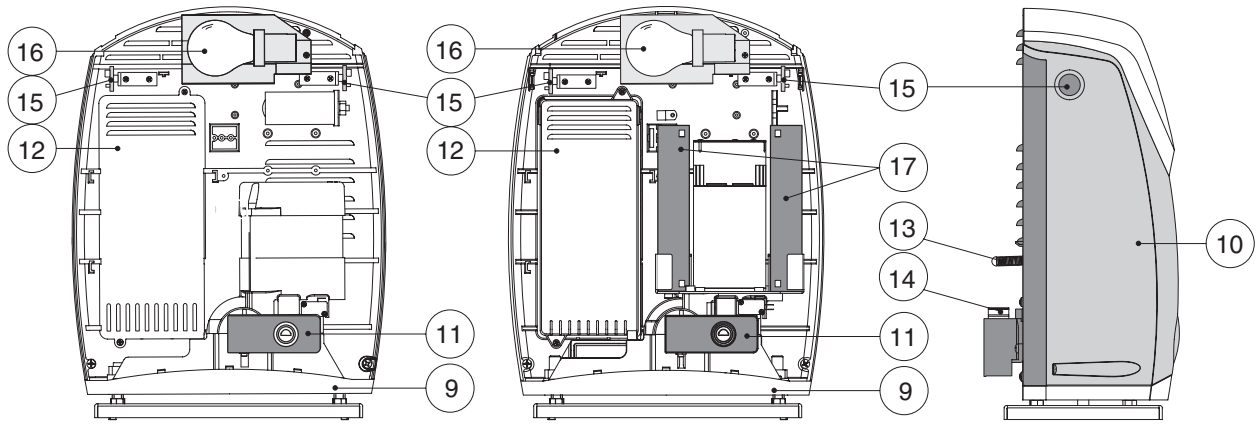



Fig. 2




**Cross 5E - 7E - 8E** **Cross 7EH**

Fig. 3

Istallazione fotocellule all'interno del motoriduttore / Installing the photocells inside the geared motor / Installation de photocellules dans le motoreducteur / Installation der photozellen im Getriebemotor / Instalacion de las fotocelulas en el interior del motorreductor.

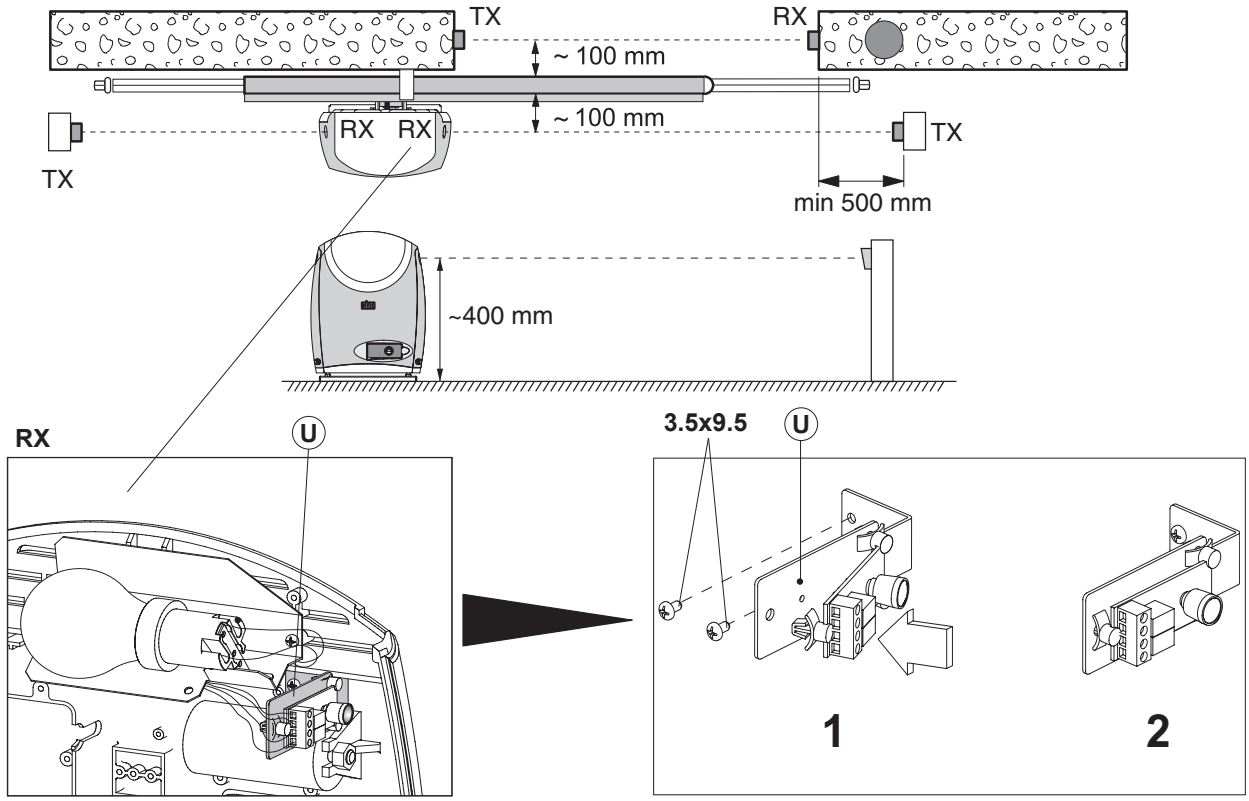



Fig. 4

Istallazione LuxK7 all'interno del motoriduttore / Installing LuxK7 inside the geared motor / Installation LuxK7 dans le motoreducteur / Installation LuxK7 im Getriebemotor / Instalacion LuxK7 en el interior del motorreductor.

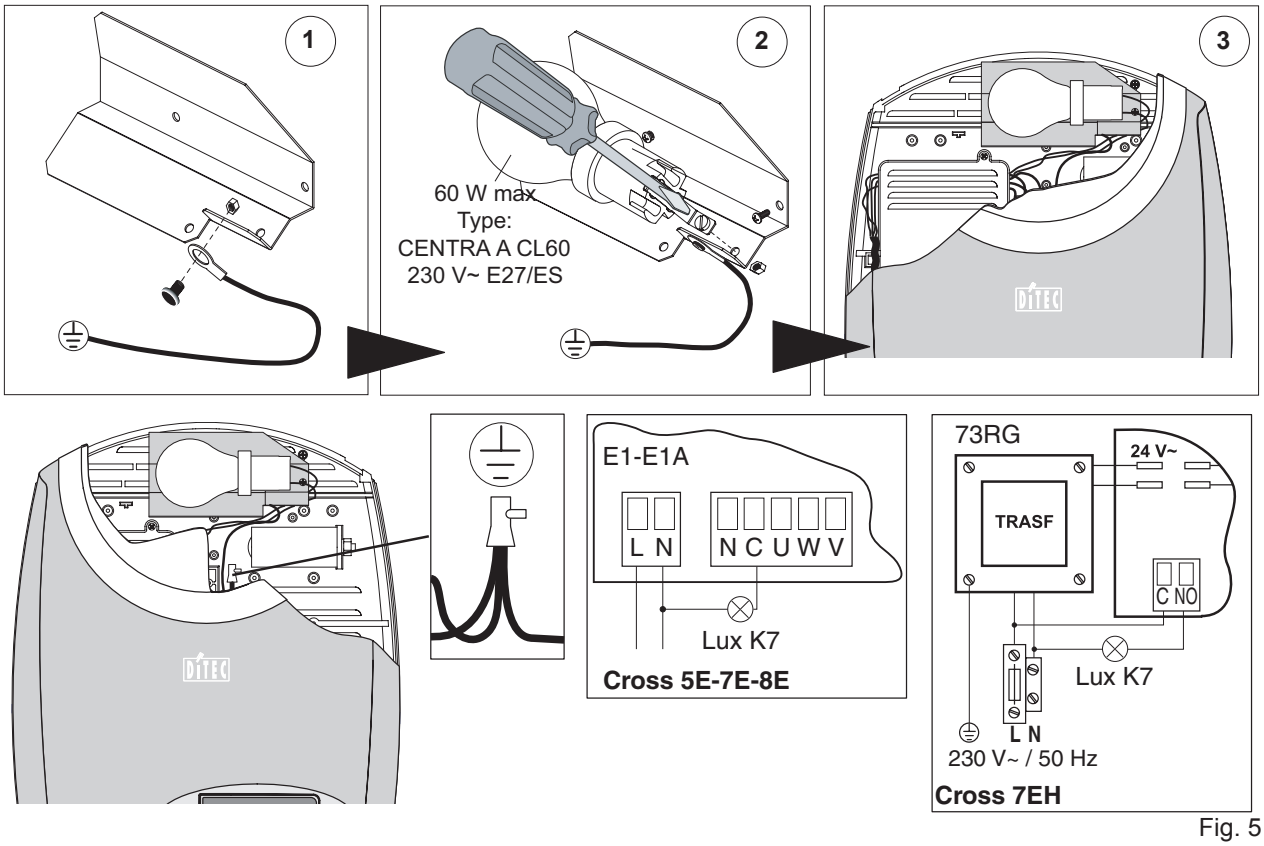



Fig. 5

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## GENERAL SAFETY PRECAUTIONS

This installation manual is intended for professionally competent personnel only.

Installation, electrical connections and adjustments must be performed in accordance with Good Working Methods and in compliance with applicable regulations.

Before installing the product, carefully read the instructions. Bad installation could be hazardous.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as these are a potential source of hazard.

Before installing the product, make sure it is in perfect condition. Do not install the product in an explosive environment and atmosphere: gas or inflammable fumes are a serious hazard risk.

Before installing the motors, make all structural changes relating to safety clearances and protection or segregation of all areas where there is risk of being crushed, cut or dragged, and danger areas in general.

Make sure the existing structure is up to standard in terms of strength and stability.

The motor manufacturer is not responsible for failure to use Good Working Methods in building the frames to be motorised or for any deformation occurring during use.

The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorised door or gate.

The safety devices must protect any areas where the risk exists of being crushed, cut or gragged, or where there are any other risks generated by the motorised door or gate. Apply hazard area notices required by applicable regulations.

Each installation must clearly show the identification details of the motorised door or gate.

Before making power connections, make sure the plate details correspond to those of the power mains.

Fit an omnipolar disconnection switch with a contact opening gap of at least 3 mm. Make sure an adequate residual current circuit breaker and overcurrent cutout are fitted upstream of the electrical system.

When necessary, connect the motorised door or gate to a reliable earth system made in accordance with applicable safety regulations. During installation, maintenance and repair, interrupt the power supply before opening the lid to access the electrical parts.

To handle electronic parts, wear earthed antistatic conductive bracelets. The motor manufacturer declines all responsibility in the event of component parts being fitted that are not compatible with the safe an correct operation.

For repairs or replacements of products only original spare parts must be used.

The installer shall provide all information relating to automatic, manual and emergency operation of the motorised door or gate, and provide the user with operating instructions.

## MACHINERY DIRECTIVE

Pursuant to Machinery Directive (98/37/EC) the installer who motorises a door or gate has the same obligations as the manufacturer of machinery and as such must:

- prepare the technical file which must contain the documents indicated in Annex V of the Machinery Directive; (The technical file must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorised door);
- draft the EC declaration of conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the CE marking on the power operated door in accordance with point 1.7.3 of Annex I of the Machinery Directive.

For more information consult the “Technical Manual Guidelines” available on Internet at the following address: www.ditec.it

## APPLICATIONS

**Service life: 3** (minimum 10÷5 years of working life with 30÷60 cycles a day)

**Applications: FREQUENT** (For vehicle or pedestrian accesses to town houses or small condominiums with frequent use).

**Service life: 4** (minimum 10÷5 years of working life with 100÷200 cycles a day).

**Applications: HEAVY DUTY** (For all special applications with ongoing use such as toll gates and so on).

- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). A reduction in performance is to be expected when the access is made to operate at the maximum permissible weight.
- Service class, running times, and the number of consecutive cycles are to be taken as merely indicative having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specific conditions of use. During given time spans product performance characteristics will be such as not to require any special maintenance.
- The actual performance characteristics of each automatic access may be affected by independent variables such as friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic access or curtail its working life or parts thereof (including the automatic devices themselves). When setting up, specific local conditions must be duly borne in mind and the installation adapted accordingly for ensuring maximum durability and trouble-free operation.

## DECLARATION BY THE MANUFACTURER

(Directive 98/37/EC, Annex II, sub B)

Manufacturer: DITEC S.p.A.

Address: via Mons. Banfi, 3
21042 Caronno P.lla (VA) - ITALY

Herewith declares that the electromechanical automatic system series Cross5E-7E-8E-7EH.

- is intended to be incorpored into machinery or to be assembled with other machinery to constitute machinery convered by Directive 98/37/EC;
- is in conformity with the provisions of the following other EEC directives: Electromagnetic Compatibility Directive 89/336/EEC; Low Voltage Directive 73/23/EEC; and furthermore declares that it is not allowed to put the machinery into service until the machinery into which it is to be incorporated or of which it is to be a component has been found and declared to be in conformity with the provisions of Directive 98/37/EC and with national implementing legislation.

Caronno Pertusella, 10-09-2003

Fermo Bressanini
(President)

## 1. TECHNICAL DATA

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| | Cross5E | Cross7E | Cross7EH | Cross8E |
|---|---|---|---|---|
| Power supply | 230 V~ / 50 Hz | 230 V~ / 50 Hz | 230 V~ / 50-60 Hz | 230 V~ / 50 Hz |
| Absorption | 1,5 A | 2 A | 1,5 A | 3 A |
| Torque | 500 N | 700 N | 600 N | 800 N |
| Condenser | 12,5 µF | 16 µF | - | 22 µF |
| Max. run | 20 m | 20 m | 20 m | 20 m |
| Door speed | 0,18 m/s | 0,18 m/s | 0,12 ÷ 0,20 m/s | 0,18 m/s |
| Max. door weight | 400 kg | 600 kg | 600 kg | 800 kg |
| Service class | 3 - FREQUENT | 4 - HEAVY DUTY | 4 - HEAVY DUTY | 4 - HEAVY DUTY |
| Min. num. of consecutive cycles | 20 | 30 | 50 | 30 |
| Intermittence | S2 = 15 min<br>S3 = 25% | S2 = 20 min<br>S3 = 50% | S2 = 30 min<br>S3 = 50% | S2 = 20 min<br>S3 = 50% |
| Temperature | -20 °C/+55 °C | -20 °C/+55 °C | -20 °C/+55 °C | -20 °C/+55 °C |
| Degree of protection | IP24D | IP24D | IP24D | IP24D |
| Control panel | E1 | E1A | 73RG | E1A |

## 2. REFERENCE TO ILLUSTRATIONS

The given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

### 2.1 Standard installation references (fig. 1)

[1] Radio
[2] Flashing light
[3] Key selector
[4] Geared motor + electrical board
[5] Photocells
[6] Rubber hip / Sensitive hip
[7] Opening and closing stop
[8] Connect power supply to an omni-pole switch with a contact opening gap of no less that 3 mm (not supplied by us).

⚠ Connection to supply mains must be carried out in an independent raceway separate from control connections and safety device connections.

### 2.2 Geared motor references (fig. 3)

[9] Geared motor
[10] Carter
[11] Manual lock release
[12] Electrical board
[13] Limit-switch spring
[14] Pinion
[15] Internal photocell
[16] Courtesy light LUXK7 (optional)
[17] BATK7 battery kit (optional, only for Cross7EH)

## 3. INSTALLATION

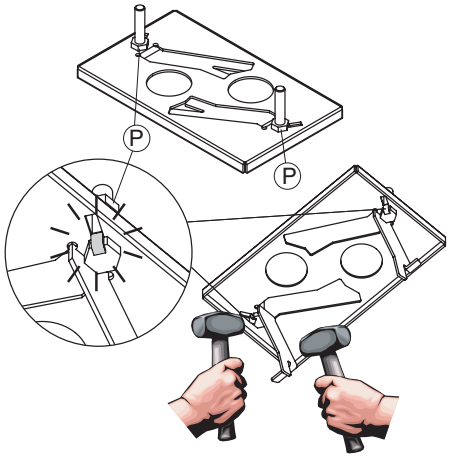
Unless otherwise specified, all measurements are expressed in millimetres.

### 3.1 Preliminary checks

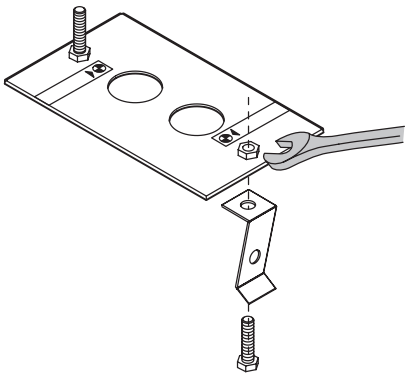
⚠ Check for gate stability (derailment and sideways falling), that the slide wheels are in good condition and that the top guides do not cause any friction.
The sliding track must be securely anchored to the ground and fully exposed along its full length.
It must be perfectly smooth so as to avoid jamming of the gate.
Provide opening and closing stops.
*Note: make sure that the gate is securely inserted in the slideway so that it cannot come out of the slideway and fall.*
In case of slits being present on the gate, cover them to avoid any risk of cutting.
To reduce impact force installation of safety devices at gate ends is recommended.

### 3.2 Base plate prearrangement

- First, insert the screws into the base plate blocking them with a low nut [P], then, fold the tang to avoid displacement.
- Take out the preformed wall anchors with a downward movement and with the help of a hammer to ensure proper anchorage to the concrete.




**Cross7E-7EH-8E**



**Cross5E**

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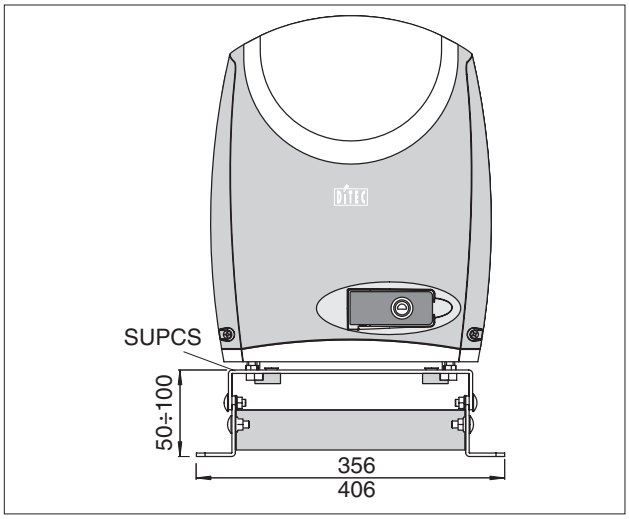
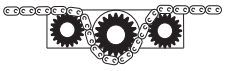
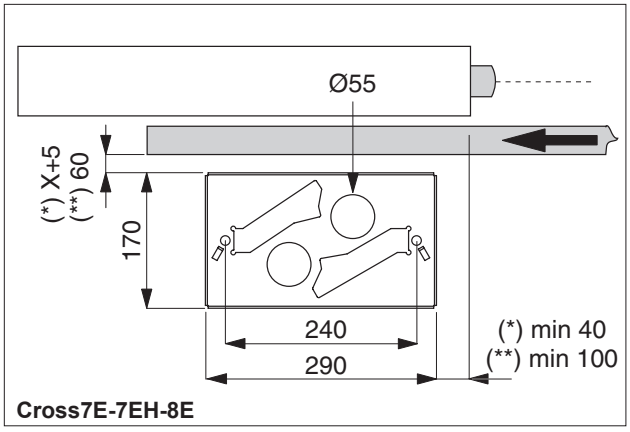
- Lay a concrete foundation with buried anchoring brackets and the base plate, making sure that it is perfectly level and smooth (see figure).
  *Note: if the cement area is already present you can use the adjustable SUPCS base.*
  *Attention: the gearmotor must be suitably raised from the ground to avoid flooding.*




| | | |
|---|---|---|
| **(*) CROSS CRI** | | **X = 40 mm** |
| **(*) CROSS CRN** | | **X = 40 mm** |
| **(**) CROSS7EHTC** |  | |



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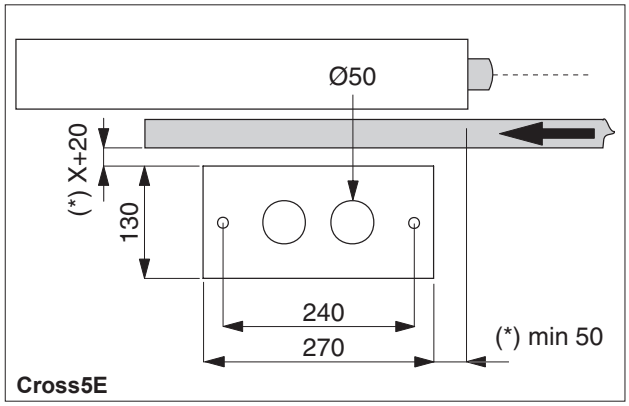
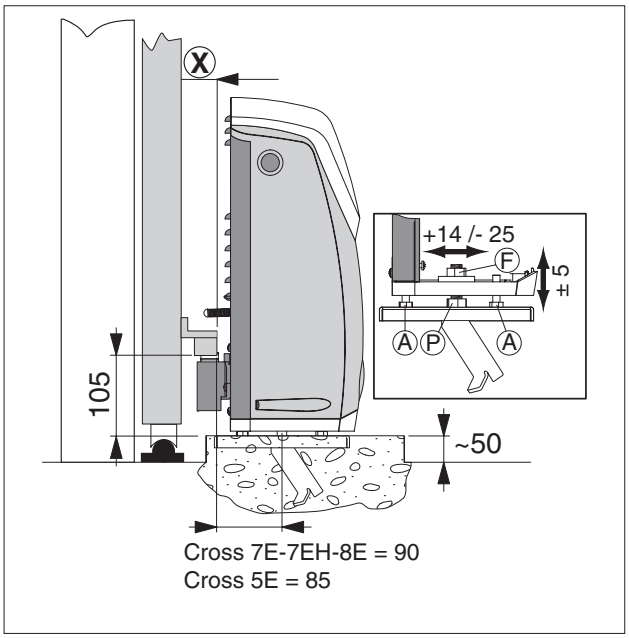


**Cross5E**

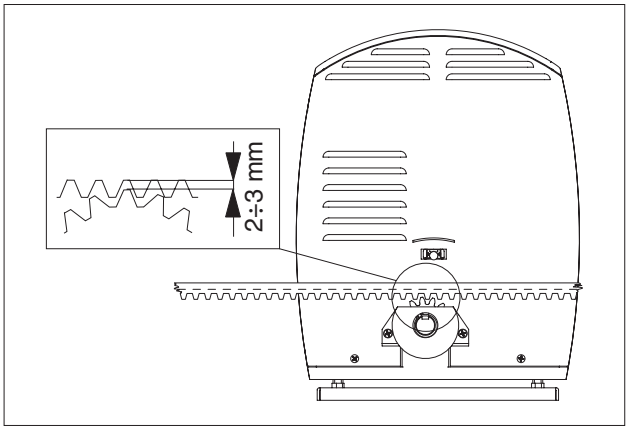
## 3.3 Geared motor installation

- Release the gearmotor and remove the key. Loosen the three frontal screws and remove the casing.
- Position the gearmotor onto the base plate.
- Gearmotor adjustments
  Horizontally, by making it slide along the slots of the reduction base, and vertically, with the four levelling screws [A].
  *Note: While adjusting vertically, keep the motor slightly raised above the base plate so as to allow enough space to secure the rack and to make any subsequent adjustments, if necessary.*




## 3.4 Rack installation

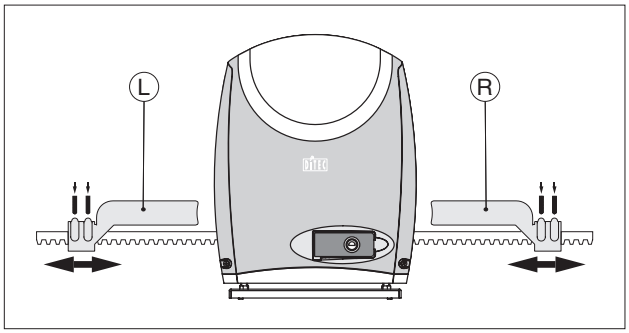
- Release the gearmotor and set the gate in the open position. Place the rack on pinion [14] and move the gate manually to secure the rack along its full length.
- Once the rack has been secured, vertically adjust the geared motor so as to have a gap of 2 to 3 mm between the pinion and the rack with screws [A].
- Firmly secure the gearmotor by means of nuts [F].
- Lubricate the rack and pinion lightly after assembly. Manually move gate to check that it slides freely and smoothly.

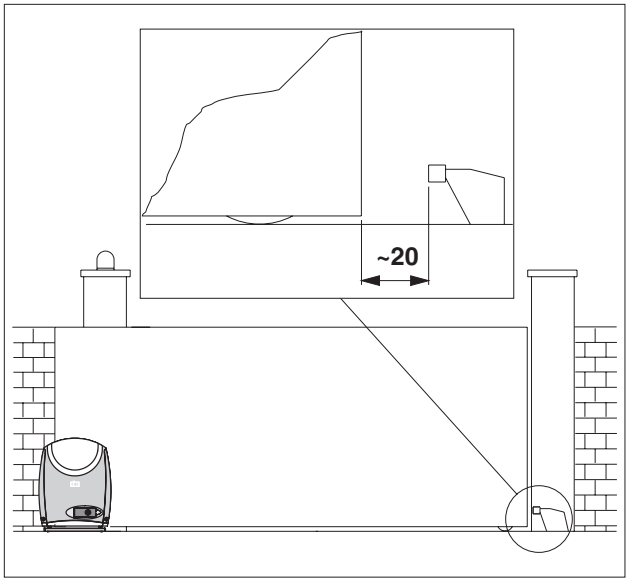


## 3.5 Adjusting limit switch

- Manually position the door wing completely open and fasten the limit switch brackets [L] onto the rack so that the lever limit switch exceeds the bracket's length by approximately 2/3. Repeat the operation with door wing completely closed.
- After having performed a certain number of operations, adjust the position of the limit switch bracket [L] so that the gate will stop about 20 mm before the opening and closing stops.

*Note: (Only for Cross7EH) the limit switch kit is optional and it is used to stop the gate before the opening and closing stops.*
*When limit switch is present, slow down is carried out at maximum power to overcome possible friction.*




## 3.6 Operation by encoder

The Cross7EH does not require limit switches because it has an encoder. Stops must necessarily be installed. The gate decelerates automatically in proximity of the stops.
*Attention: upon reaching the opening or closing limit stop, the gate performs a brief disengaging maneuver (moving reversal) to facilitate the manual release of the geared motor.*

## 3.7 Cross7EHTC installation (only for Cross7EH)

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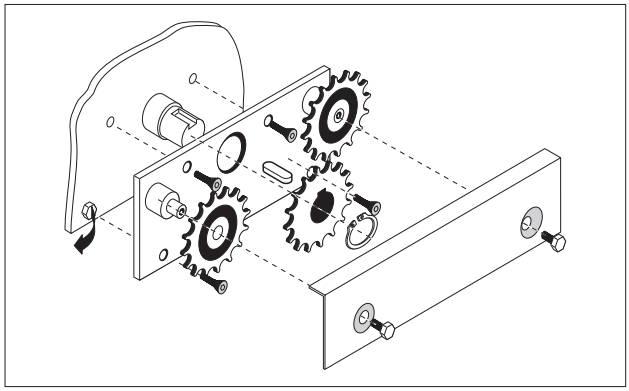
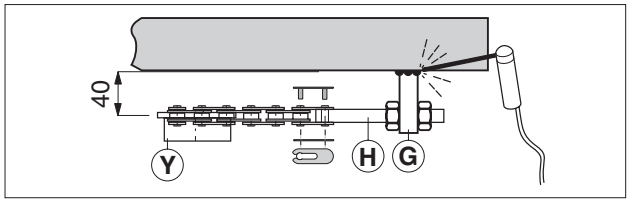
Disengage the gearmotor (see OPERATING INSTRUCTIONS). Remove the pinion [14]. Fix the pinion-holding plate to the gearmotor. Fit the pinions as shown in the figure. Manually route the chain through the pinions. Fix the cover plate.
*Attention: with chain fitted, the gearmotor direction of rotation is reversed.*

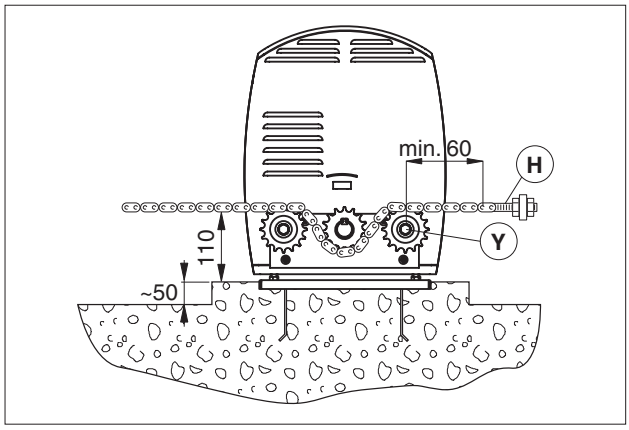


## 3.8 Chain installation

- Set the gate in the open position and fasten brackets [G] to the wing as shown in figure.




- Connect the chain previously installed on the gearmotor to the tie rod [H] and fasten it to the bracket [G].
- Secure the bracket [G] onto the opposite side of the gate. Connect the chain to the tie rod [H] and secure it to the bracket [G] (cut off excess chain).
  *Note: with the gate in complete opening and closing position, check that the distance between the centre of the pinion [Y] and the tie rod [H] shown in figue is respected.*




- Finally, firmly secure the gearmotor by means of nuts [D].
- Tighten the chain by means of tie rods [H].
- Lightly lubricate the chain and pinion after assembly.

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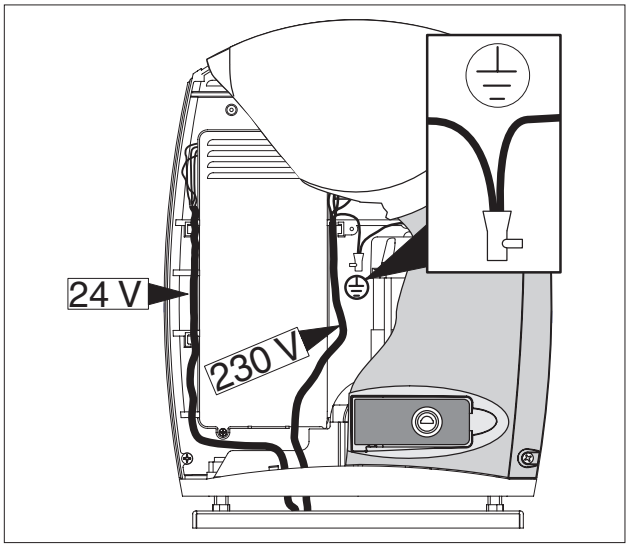
## 4. ELECTRICAL CONNECTION

Electrical wiring and starting are shown in the installation manual of control panel E1-E1A (Cross5E-7E-8E) and 73RG (Cross7EH).

230 V cables (power supply, flashing light and external courtesy light, if any) are to be positioned on the right of the electric control panel, as it is shown in the figure.

24 V cables (safeties, controls and external antenna, if any) are to be positioned on the left of the electric control panel, as it is shown in the figure.

*ATTENTION: Connect the yellow-green ground cable to the clamp already connected to the motor, as it is shown in the figure.*




## 5. INSTALLING THE PHOTOCELLS INSIDE THE GEARED MOTOR (fig. 4)

Additional photocells may be installed inside the gearmotor for the protection of both opening and closing movement. Fit a receiver (RX) or a transmitter (TX) on the [U] brackets provided. Installation of the photocells must be carried out in observance of the standards EN 12453 and EN 12445.

*Attention: the photocell receiver (RX) and transmitter (TX) may also be installed at two different heights, the maximum permissible difference in height being 300 mm.*

## 6. INSTALLING LUXK7 INSIDE THE GEARED MOTOR (fig. 5)

The courtesy lamp can be mounted inside the gear motor. For mounting and connection, carry out the operations shown in the figure.

*ATTENTION: Connect the yellow-green ground cable to the clamp already connected to the motor, as it is shown in the figure.*

The courtesy lamp can be enabled or disabled by means of a BixLP4 radio remote control and by storing the CH3 function (see instructions E1A, 73RG).

## 7. BATK7 [17] BATTERY KIT INSTALLATION (only Cross7EH)

The BATK7 battery kit permits to operate the gate even in case of mains power failure.

*Note: when not in use, batteries are kept charged by means of the control circuit.*

Fit the batteries inside the geared motor and secure by means of the appropriate support brackets (see instructions of BatK7).

## 8. MAINTENANCE PROGRAM (each 6 month)

Power off and geared motor released (see OPERATING INSTRUCTIONS):

- Visually check that the gate, anchoring bracket and existing structure are sufficiently sturdy and in good condition.
- Check gate/gearmotor alignment and the distance (2-3 mm) between the mouth of the pinion and the crest of the rack and check the distance from the rack to the rack guide bracket (3 mm), if fitted.
- Clean the wheel sliding tracks, lightly lubricate the pinion, the rack or the chain. Manually move gate to check that it slides freely and smoothly.

Power on and geared motor lock (see OPERATING INSTRUCTIONS):

- Check the functioning of the limit switches (the gate must come to a halt about 20 mm before the stops).
- Check the power adjustments.
- Check the operation of all controls and safety functions.

*ATTENTION: For spare parts, see the spares price list.*

**All right reserved**

All data and specifications have been drawn up and checked with the greatest care. The manufacturer cannot however take any responsibility for eventual errors, ommisions or incomplete data due to technical or illustrative purposes.

TEAR OFF AND DELIVER TO USER

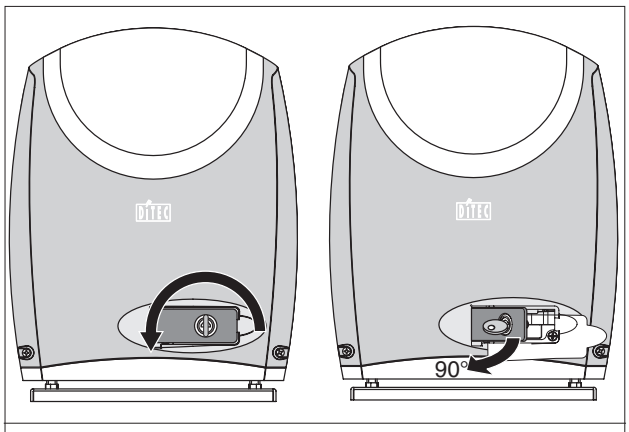
# OPERATING INSTRUCTION FOR SLIDING GATES CROSS5E-7E-7EH-8E

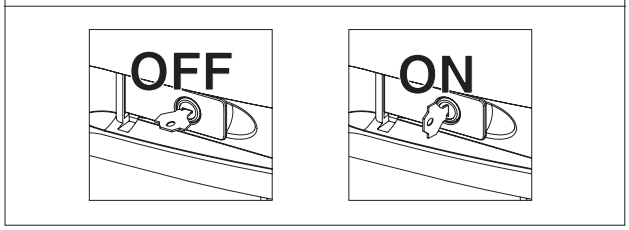
## RELEASE INSTRUCTION

In case of fault or power failure, insert and turn the key anticlockwise, completely open the cover. Manually open the gate. To lock the gate again, shut the cover, turn the key clockwise and remove the key.

⚠ *Attention: perform locking and lock release operations with motor cut off.*

*Attention: with the cover closed and the key in a horizontal position, the lock release microswitch is open, thus preventing any operation.*




## GENERAL SAFETY PRECAUTIONS

⚠ The following precautions are an integral and essential part of the product and must be supplied to the user.

Read them carefully as they contain important indications for the safe installation, use and maintenace.

These instruction must be kept and forwarded to all possible future user of the system.

This product must be used only for that which it has been expressely designed.

Any other use is to be considered improper and therefore dangerous.

The manufacturer cannot be held responsible for possible damage caused by improper, erroneous or unresonable use.

Avoid operating in the proximity of the hinges or moving mechanical parts.

Do not enter the field of action of the motorised door or gate while in motion.

Do not obstruct the motion of the motorised door or gate as this may cause a situation of danger.

Do not lean against or hang on to the barrier when it is moving.

Do not allow children to play or stay within the field of action of the motorised door or gate.

Keep remote control or any other control devices out of the reach of children, in order to avoid possible involuntary activation of the motorised door or gate.

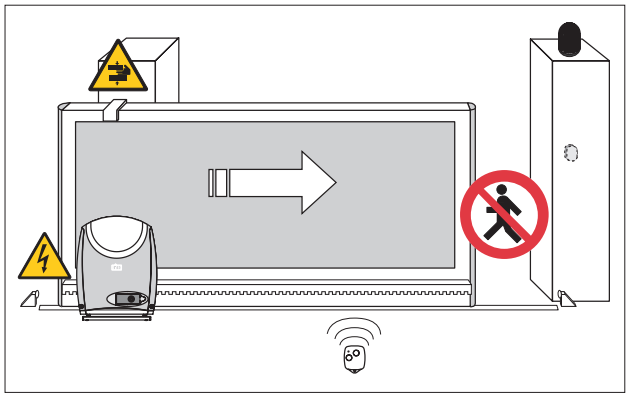
In case of breack down or malfunctioning of the product, disconnect from mains, do not attempt to repair or intervene directly and contact only qualified personnel.

Failure to comply with the above may create a situation of danger.

All cleaning, maintenance or repair work must be carried out by qualified personnel.

In order to guarantee that the system works efficiently and correctly it is indispensable to comply with the manufacturer's indications thus having the periodic maintenance of the motorised door or gate carried out by qualified personnel.

In particular regular checks are recommended in order to verify that the safety devices are operating correctly. All installation, maintenance and repair work must be documented and made available to the user.



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